

REMARKS

Claims 1-9 and 20-23 remain in this application. Claims 5-7 have been amended.
Claims 10-19 have been canceled.

Drawings:

The Examiner objected to the drawings under 37 CFR 1.83(a) stating that they fail to show “the trench layer 106” in figure 1, as described in the specification.

Replacement Figures 1 and 3-11 (sheets 1 and 3-7) have been provided. These replacement drawings should make each structural detail easier to view. Support for the replacement drawings are found in the specification as listed below (note that Figure 1 is listed last).

Figure 3 shows a substrate 102 and a patterned first via layer 104 on the substrate, the patterned first via layer 104 including via volumes 302. Support for this is found in paragraph [0019] of the specification.

Figure 4 shows the photosensitive trench material layer 402 on the first via layer 104. Support for this is found in paragraph [0020] of the specification.

Figure 5 shows the photosensitive trench material layer 402 after it has been patterned to form trenches 502. Support for this is found in paragraph [0021] of the specification.

Figure 6 shows a coating 602 at the surface of the patterned photosensitive trench material layer 402 and patterned first via layer 104. Support for this is found in paragraph [0024] of the specification.

Figure 7 shows a deposited seed layer 702. Support for the seed layer is found in paragraph [0026] of the specification and in Figure 7 as originally filed.

Figure 8 shows interconnects 110 after deposition of conductive material and planarizing. Support for this is found in paragraph [0027] of the specification and in Figure 8 as originally filed.

Figure 9 shows caps 902 on the interconnects 110. Support for this is found in paragraph [0028] of the specification.

Figure 10 shows a patterned top layer 108 over the patterned photosensitive trench material layer 402, coating 602, and caps 902. Support for this is found in paragraph [0029] of the specification and in Figure 10 as originally filed.

Figure 11 shows the trench layer 106 formed by decomposition of the photosensitive trench material layer 402. Support for this is found in paragraph [0030] of the specification.

Figure 1 is similar to Figure 11 and also shows the trench layer 106. Support for this is found in paragraph [0030] of the specification.

Claim Rejections Under 35 U.S.C. 112:

Claim 6 was rejected under 35 U.S.C. 112 as being indefinite for lacking antecedent basis for the term “second via dielectric layer.” Claim 6 has been amended to remove the term “second via dielectric layer” and replace it with “top layer,” for which antecedent basis may be found in claim 1. Claims 5 and 7 have also been similarly amended.

Claim Rejections under 35 U.S.C. 102(e):

Claims 1-9 and 20-23 were rejected under 35 U.S.C. 102(e) as being anticipated by Dubin, et al. (US Pub. 2004/0266167) (hereinafter “Dubin”).

Dubin fails to disclose a “**photosensitive** trench dielectric layer” (emphasis added) as recited in claims 1 and 20; the rejection is improper and should be withdrawn. The Examiner has mischaracterized sacrificial ILD 218 of Dubin as a photosensitive trench dielectric layer.

While Dubin states that sacrificial ILD 218 may be a thermally composing polymer (paragraph [0017]), Dubin fails to disclose that sacrificial ILD 218 may be photosensitive.

As claims 2-9 depend from claim 1 and claims 21-23 depend from claim 20, Dubin also fails to disclose each limitation in claims 2-9 and 21-23; the rejections should be withdrawn.

Pursuant to 37 C.F.R. 1.136(a)(3), applicant(s) hereby request and authorize the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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